



Attorney Docket No. DYOUP0210US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of

#5

Applicant: David John Richardson et al.

Serial No.: 09/802,753

Filed: March 8, 2001

For: OPTICAL RECEIVER, OPTICAL RECEIVING METHOD AND OPTICAL TRANSMISSION SYSTEM

Art Unit:

Examiner:

INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner for Patents  
U.S. Patent and Trademark Office  
Washington, D.C. 20231

Sir:

1. Pursuant to 37 C.F.R. 1.97 and 1.98, and in compliance with 37 C.F.R. 1.56, the Office's attention is directed to the patents, pending applications, publications and other information listed on the attached PTO-1449. A copy of each listed document is enclosed except for: (a) pending applications or (b) those previously cited or submitted to the Office in the following application(s) upon which this application relies for an earlier filing date under 35 U.S.C. 120:

Serial No.: \_\_\_\_\_  
Filing Date: \_\_\_\_\_

Regarding any document, publication or other information for which a date is not given on the attached PTO-1449, Applicant(s) believe(s) the same may qualify as "prior" art to this application and should be treated accordingly, although Applicant(s) reserve(s) the right to contest the prior art status of any document, publication or information, should issue arise.

2. Regarding each listed document that is not in the English language, an English-language translation accompanies this Statement as indicated on the attached PTO-1449 or a concise explanation of the relevance of the document is set forth in the following document(s):

- (a) \_\_\_\_\_ Copy of each English language version of a search report indicating the degree of relevance found by the foreign office of each document being submitted from the search report.
- (b) \_\_\_\_\_ Attachment entitled "Concise Explanation of Relevance of Non-English Language Documents".

3. Pursuant to 37 C.F.R. 1.97(b) this Statement is being filed (one must be checked):

- (a) \_\_\_\_\_ Within 3 months of the filing date, date of entry into the National Stage, or filing date of CPA.
- (b) X Before the mailing date of a first Office Action on the merits. If this Statement is not filed before the mailing date of a first Office Action on the merits, the required certification is given below or, in the absence thereof, the Office is authorized to charge the required fee set forth in 37 C.F.R. 1.17(p) to Deposit Account No. 18-0988 for consideration of this Statement.
- (c) \_\_\_\_\_ Before the mailing date of a first Office Action on the merits after a first or second submission after final rejection under 37 C.F.R. 1.129(a).

(d) \_\_\_ After the period set forth in 37 C.F.R. 1.97(b) but before the mailing date of either a final action or a notice of allowance.

(1) \_\_\_ The required certification is given below, or

(2) \_\_\_ Enclosed is a check covering the fee set forth in 37 C.F.R. 1.17(p) for consideration of this Statement, or

(3) \_\_\_ Charge the fee set forth in 37 C.F.R. 1.17(p) to Deposit Account No. 18-0988

(e) \_\_\_ After the mailing date of either a final action or a notice of allowance, but before payment of the issue fee. Petition hereby is made for consideration of this Statement and the required certification is indicated below.

(1) \_\_\_ Enclosed is a check covering the fee set forth in 37 C.F.R. 1.17(p), or

(2) \_\_\_ Charge the fee set forth in 37 C.F.R. 1.17(p) to Deposit Account No. 18-0988.

4. Certification (if applicable)


(a) \_\_\_ The undersigned hereby certifies that each item of information contained in this Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than 3 months prior to the filing of this Statement.

(b) \_\_\_ The undersigned hereby certifies that no item of information contained in this Statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the undersigned's knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. 1.56(c) more than 3 months prior to the filing of this Statement.

5. The Commissioner is hereby authorized to charge any additional fees or credit any overpayment to Deposit Account No. 18-0988.

Respectfully Submitted,

RENNER, OTTO, BOISSELLE & SKLAR, LLP

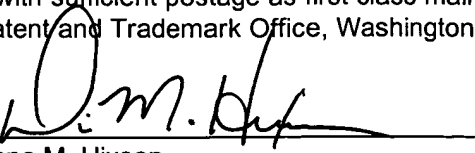
By   
Don W. Bulson  
Reg. No. 28,192

1621 Euclid Avenue, 19th Floor  
Cleveland, Ohio 44115  
(216) 621-1113

**CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8**

I hereby certify that this correspondence (along with any paper referenced as being attached or enclosed) is being deposited on the below date with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to Assistant Commissioner for Patents, U.S. Patent and Trademark Office, Washington, D.C. 20231.

Date: 7-2-01

  
Diane M. Hixson



## REFERENCES

- [1] K. Kitayama, and N. Wada, "Photonic IP routing," *IEEE Photon. Technol. Lett.*, vol.11, no.12, pp.1689-1691, 1999.
- 5 [2] I. Saeki, S. Nishi, and K. Murakami, "All-optical code division multiplexing switching network based on self-routing principle," in *IEICE Trans. Commun.*, vol.E82-B, no.2, pp.239-245, 1999.
- [3] W. C. Y. Lee, "Overview of cellular CDMA," *IEEE Trans. Veh. Technol.*, vol.40, no.2, pp.291-302, 1991
- 10 [4] P. C. Teh, P. Petropoulos, M. Ibsen and D. J. Richardson, "The generation, recognition and re-coding of 64-bit, 160 Gbit/s optical code sequences using superstructured fiber Bragg gratings," in *Proc. 5<sup>th</sup> Optoelectronics & Communication Conference*, Japan, 2000, PD1-3.
- 15 [5] B. J. Eggleton, P. A. Krug, L. Poladian, and F. Ouellette, "Long period superstructure Bragg gratings in optical fibers," *Electron. Lett.*, vol.30, no.19, pp.1620-1622, 1994.
- [6] M. Ibsen, M. K. Durkin, M. J. Cole, and R. I. Laming, "Sinc-sampled fiber Bragg gratings for identical multiple wavelength operation," *IEEE Photon. Technol. Lett.*, vol.10, no.6, pp.842-844, 1998.
- 20 [7] P. Petropoulos, M. Ibsen, M. N. Zervas and D. J. Richardson, "Generation of a 40-GHz pulse stream by pulse multiplication with a sampled fiber Bragg grating," *Optics Lett.*, vol.25, no.8, pp.521-523, 2000.
- [8] P. Petropoulos, M. Ibsen, A. D. Ellis, and D. J. Richardson, "Rectangular pulse generation based on pulse reshaping using a superstructured fiber Bragg grating," to be appeared in *J. Lightwave Technol.*, 2001.
- 25 [9] N. Wada, and K. Kitayama, "A 10Gb/s optical code division multiplexing



- 5
- [10] D. B. Hunter, and R. A. Minasian, "Programmable high-speed optical code recognition using fiber Bragg grating arrays," *Electron. Lett.*, vol.35, no.5, pp.412-414, 1999.
- [11] C. -C. Chang, H. P. Sardesai, and A. M. Weiner, "Code-division multiple-access encoding and decoding of femtosecond optical pulses over a 2.5km fiber link," *IEEE Photon. Technol. Lett.*, vol.10, no.1, pp.171-173, 1998.
- 10 [12] K. P. Jackson, S. A. Newton, B. Moslehi, M. Tur, C. C. Cutler, J. W. Goodman, and H. J. Shaw, "Optical fiber delay-line signal processing," *IEEE Trans. Microwave Theory Tech.*, vol. MTT-33, no.3, pp.193-209, 1985.
- [13] P. C. Teh, P. Petropoulos, M. Ibsen, and D. J. Richardson, "160Gbit/s, 64-bit all-optical code generation and recognition using superstructured fiber Bragg gratings", in *Proc. ECOC'2000 Tech. Dig.*, 2000, vol.1, pp.13-14.
- 15 [14] A. L. Steele, "Pulse compression by an optical fiber loop mirror constructed from two different fibers," *Electron. Lett.*, vol.29, no.22, pp.1972-1974, 1993.
- [15] I. Y. Krushchev, I.D. Philips, A. D. Ellis, R. J. Manning, D. Nasset, D. G. Moodie. R. V. Penty, and I. H. White, "OTDM applications of dispersion-imbalanced fiber loop mirror," *Electron. Lett.*, vol.35, no.14, pp.1183-1185, 20 1999.
- [16] D. M. Patrick, A. D. Ellis, and D. M. Spirit, "Bit-rate flexible all-optical demultiplexing using a nonlinear optical loop mirror," *Electron. Lett.*, vol.29, no.8, pp.702-703, 1993.
- 25 [17] B. -E. Olsson, and P. A. Andrekson, "Noise filtering with the nonlinear optical loop mirror," *J. Lightwave Technol.*, vol.13, no. 2, pp.213-215, 1995.



[18] G. P. Agrawal, *Nonlinear fiber optics*, Academic Press, 1995, pp.43-55.

[19] L. Chusseau and E. Delevaque, "250-fs optical pulse generation by simultaneous soliton compression and shaping in a nonlinear optical loop mirror including a weak attenuation," *Optics Lett.*, vol.19, no.10, 1994, pp.734-736.

5

[20] E. H. Dinan, and B. Jabbari, "Spreading codes for direct sequence CDMA and wideband CDMA cellular networks," *IEEE Commun. Mag.*, pp.48-54, September 1998.

[21] N Wada, H Sotobayashi, and K Kitayama, *Electronics Letters*, vol. 35, no. 10, pp. 833-834

10